



# UNITED STATES PATENT AND TRADEMARK OFFICE

*cen*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,272	12/22/2005	Kathleen Jeanne Petrus Philips	NL 030766	7703
24737	7590	09/07/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			NGUYEN, KHAI M	
P.O. BOX 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			2819	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/562,272	PHILIPS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Khai M. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12/22/2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3, 9, and 12 is/are rejected.
- 7) Claim(s) 4-8, 10, 11, 13, and 14 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12/22/2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

***DETAILED ACTION***

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. An initiated copy of the information disclosure statement (IDS) submitted on 12/22/2005 is attached herewith.

***Specification***

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

***Arrangement of the Specification***

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a

nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

4. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.
5. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

#### ***Claim Objections***

6. Claims 3, 7, and 11 are objected to because the definition of claims is not concise. These claims repeat several features of claim 1 (e.g., summing node C3). The claims are also not clear because they do not clearly define whether the repeated elements are additional features or the same elements that were already specified in claim 1. Clarification or correction is required.

#### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferguson, Jr. et al. (US 5,055,843) (hereinafter referred to as "Ferguson").

Regarding claim 1, Ferguson discloses an analog-to-digital-converter (col. 1, lines 5-9; and Fig. 1-2, 4-5, 7-8, and 14) comprising a sigma-delta modulator (Fig. 7; col. 7, lines 25-61) for analog to digital converting analog input signals (700 of Fig. 7), said sigma-delta modulator including a feedback loop (col. 7, lines 25-30) with a forward path (including 704, 706, 708, 714, and 720) and a feedback path (724, 722, 716, and 710), wherein the forward path comprises a summing node (summing node 704 – col. 7, lines 30-31) with a first input receiving the analog input signals (700), noise-shaping filtering means (filter 708) coupled to the output of said summing node (704) and a quantizer (clock quantizer or A/D 720 of Fig. 7) coupled to the output of the noise-shaping filtering means (708) and wherein the feedback path is connected to supply output signals of the quantizer (in analog form – signal 710) to a second input of the summing node (704), characterized in that both the forward path and the feedback path have filtering means (filters 708 and 712) that are arranged to additionally constitute a filtering signal transfer function (Fig. 7; col. 7, lines 25-61).

Regarding claim 2, Ferguson discloses the analog-to-digital-converter of claim 1 characterized in that the noise-shaping filtering means (filter 708 of Fig. 7) in the forward path can be divided into two or more filters for constituting the filtering signal transfer function (808, 820, 830 of Fig. 8 – line 62 of col. 7 to line 10 of col. 8) and characterized in that feedback path of the feedback loop comprises a second filter (feedback filter 712 of Fig. 7 or filters 812, 822, and 832 of Fig. 8 - line 62 of col. 7 to line 10 of col. 8) for

constituting the filtering signal transfer function and characterized in that the product of the transfer function of first filter (808 or 820) and the transfer function of second filter (712) is substantially frequency-independent (i.e., they are not the same kind of filters so they operate on different frequency range).

Regarding claim 3, Ferguson discloses the analog-to-digital-converter of claim 1 having an input (700) for receiving an input signal (analog input of Fig. 7) and an output for providing an output signal (724 or  $Y(z)$ ), the sigma delta modulator comprising:

a summing node (704 of Fig. 7 or 804 of Fig. 8), a first filter (808), a second filter (corresponds to the feedback filter 712 of Fig. 7), a third filter (820 of Fig. 8), a comparator (clock quantizer or ADC 720 of Fig. 7), and a digital-to-analog converter (722 of Fig. 7);

means (wires or arrow lines 702/710) to couple the input of the analog-to-digital converter and an output of the second filter (712) to the summing node (704 or 804);

means (806, 813, 814, 816... of Fig. 8A) to cascade the first filter (808) with the third filter (820);

means (wires or arrow lines 702/710) to couple the cascade of said first and third filters between an output of the summing node and an input of the comparator (Q);

means (702, 704, 710, 716...) to couple an output (724 or 846) of the comparator (720 or 838) to the output of the analog-to digital converter ( $Y(z)$ ) and to an input of the digital-to-analog converter (700); and

means (724, 722, 716) to couple an output ( $Y(z)$ ) of the digital-to-analog converter to an input of the second filter (712),

whereby the product of the transfer function of the first filter (708 or 808) and the transfer function of the second filter (712) is frequency independent (because these filters are not the same kind of filters so they operate on different frequency range).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson, Jr. et al. (US 5,055,843) in view of Ali (US 6,765,517). Ferguson discloses features as recited in claim 1 except for a gain controlled stage and a receiver that contain features of claim 1. Ali discloses a receiver (Figs. 3 & 4) having a sigma-delta modulator (SDM 10), wherein the SDM comprises at least one gain or weight controlled stage (46 or 48). Therefore, the combination of Ferguson and Ali would have been obvious to suggest one person having ordinary skill in the art at the time the invention was made to utilize a SDM with a gain controlled stage in a receiver adapted for receiving narrowband or wideband signals (col. 1, lines 3-8).

***Prior Art***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see references cited on PTO-892 Form attached herewith).

***Allowable Subject Matter***

10. Claims 4-6, 8, 10, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the references of record neither reveal nor render obvious the recited limitations of these claims combined with features of the base claims.

***Contact Information***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 9:00 - 5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford (Rex) Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Khai M. Nguyen  
Art Unit: 2819  
571-272-1809